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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/421,605	10/20/1999	AMY LOU GLAWE	2393/504	4384

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EXAMINER	
JACKSON, MONIQUE R	21

ART UNIT	PAPER NUMBER
1773	

DATE MAILED: 10/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application N .	Applicant(s)	
	09/421,605	GLAWE ET AL.	
	Examiner	Art Unit	
	Monique R Jackson	1773	

-- The MAILING DATE of this communicati n appears on th cover sheet with the correspondence address --

Period f r Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 August 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-35,39 and 40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-35,39 and 40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. The amendment filed 8/11/03 has been entered. Claims 36-38 have been cancelled. New claims 39-40 have been added. Claims 1-3, 5-35 and 39-40 are pending in the application.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

3. Claims 1-3, 5-13, 20-33 and 39-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. A claim in which one ingredient is defined so broadly that it reads upon a second does not meet the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Ferm and Boynton*, 162 USPQ (BdPatApp & Int 1969.) Claim 1 recites the limitation "an intermediate layer comprising a mixture of nylon copolymer and an amorphous nylon" however given that the claim nor the instant specification clearly defines nylon copolymer to exclude amorphous nylon and vice versa, the two terms may read upon one another given that a nylon copolymer may be an amorphous nylon.

Claim Rejections - 35 USC § 103

4. Claims 1-3, 5-9, 20-22, 27-35 and 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shepard et al (USPN 6,068,933) in view of Wilhoit et al (USPN 5,928,740) generally for the reasons recited in the prior office action.

Sheppard et al teach a multilayer polymeric film that is desirable for thermoforming applications wherein the film has improved clarity, gloss, and low haze (Abstract.) The multilayer films are useful for packaging of products **such as food**, have a thickness of 2-10 mils

(*50.8μm-254μm*), and comprise inner layer(s) of nylon, preferably 5-35wt% of an amorphous nylon which is characterized by the lack of an endotherm crystalline melting point in a Differential Scanning Calorimeter test, blended with one or more various other nylons commonly used in the art of making polymer films such as nylon 6, nylon 6,6, or nylon 12, with each nylon layer having a thickness of from 5 to 20% of the thickness of the film (*hence ranging from 0.1μm-50.8μm*; Col. 6, lines 60-61; Col. 9, lines 60-62; Col. 10, lines 36-38; Col. 11, lines 20-21 and lines 55-57; Col. 4, lines 29-32; Col. 7, lines 23-Col. 14; Col. 9, line 10.) Shepard et al teach that the multilayer films also comprise a sealant layer capable of forming a heat seal and comprising any of various polymers including LLDPE which includes all linear polyethylenes with a density up to about 0.95g/cc, LDPE, EVA, MDPE, EMA, olefins catalyzed by single site catalysts (metallocene catalyzed olefins), EMA, EMAA, an ionomer, or **a blend of any of these polymers**, with example heat seal polymers including a very low density polyethylene formed from ethylene and octene, and has a thickness of between 15-40% of the film thickness (*hence ranging from 7.62μm-101.6μm*; Col. 5, line 44- Col. 6, line 4.) The multilayer films may further comprise adhesive layers such as anhydride-modified polyolefins and have a thickness of 5-40% of the film thickness (*hence ranging from 0.1μm-50.8μm*; Col. 8, lines 23-35.) The multilayer film may further include antiblocking agents (processing aids) (Col. 8, lines 52-60.) Shepard et al specifically teach an embodiment comprising a sealant outer layer, nylon intermediate layers, two adhesive layers, and a second non-moisture barrier outer layer on the other side of the nylon core layers wherein the non-moisture barrier outer layer may comprise any of the following polymers: medium density polyethylene, LLDPE, LDPE, EVA, styrene, EMA, EAA, EMAA, an ionomer, or blends of any of these polymers (Col. 11, lines 43-49.)

Though Shepard et al teach that the sealant layer may comprise the same polymers as disclosed in the instant invention, Shepard et al do not specifically teach the blend composition as instantly claimed. However, Wilhoit et al '740 teach thermoplastic ethylene-α-olefin copolymer blends and mono- and multilayer films therefrom having improved heat sealing properties and improved puncture resistance in food packaging applications wherein the blend has a first polymer of ethylene and at least one α-olefin having a polymer melting point between 55 to 75C, a density of 0.900 g/cc or less, and present in an amount of at least 10wt% of the total blend layer, preferably 20-35wt% (*compatibilizer of instant invention*); a second polymer of ethylene and at least one α-olefin having a polymer melting point between 85 to 110C, a density of 0.900 to 0.915 (*VLDPE*), and present in an amount of at least 10wt% and preferably 25-60wt% of the blend; a third thermoplastic polymer having a melting point between 115 to 130C and present in an amount of at least 10wt%, preferably 10-30wt%; and preferably a fourth polymer which is EVA, having a melting point between 90 to 100C, preferably in an amount of 10-30wt%; wherein the blend layer may have less than 15% EVA, greater than 25% EVA, or 15-25% EVA; wherein the ethylene-α-olefin copolymers typically have a melt index of less 2 dg/min (Abstract; Col. 7, lines 24-51; Col. 7, lines 59-66; Col. 8, lines 14-30; Col. 8, line 49-Col. 9, line 26; Col. 10, lines 49-59.) Wilhoit et al '740 teach that blends of the invention may be manufactured into various useful articles for packaging foods, etc., such as die melt, **molded, thermoformed and rigid solid** bodies in the form of mono or **multilayer films** (Col. 11, lines 37-59.) Wilhoit et al '740 also teach food packaging films, in general, comprising **one or more barrier layers such as nylon** or EVOH used with a heat sealing layer such as of EVA, to producing packaging for oxygen and/or moisture sensitive foods (Col. 1, lines 12-36) and further

teach that the blend composition provides improved heat sealing properties over other heat sealing materials (Col. 1, lines 12-36; Col. 5, line 64-Col. 6, line 32.) Hence, it would have been obvious to one having ordinary skill in the art at the time of the invention to utilize the blend sealant layer taught by Wilhoit et al '740 as the sealant layer in the invention taught by Shepard et al to provide improved heat sealing properties and improved puncture resistance. Further, though Wilhoit et al '740 teach weight percentage ranges of the blend composition that fall within the instantly claimed ranges, Wilhoit et al '740 does not specifically limit the invention to the ranges as instantly claimed. However, the amounts of the blend components present in the blend are result-effective variables as taught by Wilhoit et al '740 and hence, it would have been obvious to one having ordinary skill in the art at the time of the invention to utilize routine experimentation to determine the optimum amount of the blend components to provide in the sealant layer of Shepard et al as taught by Wilhoit et al '740 based on the desired sealant layer properties for a particular end use and to utilize any commercially available ethylene copolymer conventionally utilized in the art within the limitations taught by Wilhoit et al '740 including those as instantly claimed. Further, though Shepard et al in view of Wilhoit et al teach a multilayer film desirable for thermoforming applications and food packaging wherein a sealant layer may be utilized to form a heat seal with other polymer films, Shepard et al do not specifically teach a closing film however based on the teachings of Shepard et al in view of Wilhoit et al, one having ordinary skill in the art at the time of the invention would have been motivated to provide a polymer film or closing film as suggested by Shepard et al to heat seal to the sealant layer and further to package foodstuffs within the sealed thermoformed article taught by Shepard et al in view of Wilhoit et al '740.

5. Claims 7-9, 20-22, 29-30, and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shepard et al in view of Wilhoit et al '740 generally for the reasons recited in the prior office action.

The teachings of Shepard et al in view of Wilhoit et al '740 are discussed above. Though Shepard et al teach that the multilayer film has a typical thickness of 2-10 mils (50.8μm-254μm), with each layer comprising a particular percentage of the total film thickness wherein the layer ranges fall within the instantly claimed ranges, Shepard et al do not specifically teach that the layers have a corresponding thickness as instantly claimed. However, as previously stated in the prior office action, given that it is well known in the art that the thickness of the layers is a result-effective variable wherein the thickness affects the properties of the film including mechanical properties as well as barrier properties, it would have been obvious to one skilled in the art to utilize routine experimentation to determine the optimum layer thickness for each layer of the multilayer film taught by Shepard et al in view of Wilhoit et al '740.

6. Claims 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shepard et al in view of Wilhoit et al '740 generally for the reasons recited in the prior office action.

The teachings of Shepard et al in view of Wilhoit et al '740 are discussed above. Though Shepard et al teach that the multilayer film may further comprise an antiblocking agent which is a processing aid, Shepard et al do not specifically teach that the outer layer of the multilayer film comprises a fluoroelastomer processing aid in the amount instantly recited. However, as previously stated in the prior office action, processing aids including fluoroelastomer processing aids are conventional and well known additives in the art to incorporate into the outer layer of a film to improve the machinability and handling of the multilayer films, and hence, it would have

been obvious to one skilled in the art at the time of the invention to incorporate conventional additives such as processing aids like fluoroelastomers into the outer layer of the film taught by Shepard et al in view of Wilhoit et al '740. Further, it would have been obvious to one skilled in the art at the time of the invention to determine the optimum amount of processing aid to provide the desired processability given that it is well known in the art that the amount is a result-effective variable affecting the machinability and handling of the resulting film.

7. Claims 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shepard et al in view of Wilhoit et al '740 in further view of Bekele (USPN 5,491,009) or Bekele (USPN 5,183,706.)

The teachings of Shepard et al in view of Wilhoit et al '740 are discussed above. Shepard et al teach that the nylon intermediate layers preferably comprise 5-35wt% of an amorphous nylon blended with one or more various other nylons commonly used in the art of making polymeric films such as nylon 6, nylon 6,6, nylon 6, 12, or nylon 12. Though Shepard et al do not specifically teach the use of nylon 6,66 as the other nylon in the nylon blend layer, nylon 6,66 is an obvious and functionally equivalent species of nylon utilized in making polymer films as suggested by Shepard et al in Col. 9, lines 10, as well as Bekele '009 in Col. 6, lines 42-54 or Bekele '706 and would have been obvious to one skilled in the art at the time of the invention. Further, it would have been obvious to one skilled in the art at the time of the invention to utilize any other conventional or functionally equivalent nylon copolymer such as nylon 6,66 in any comonomer ratio or any conventionally utilized amorphous copolymer such as SELAR PA 3426 as evidenced by Bekele '009 (Col. 6, lines 14-16.)

8. Claims 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shepard et al in view of Wilhoit et al '740 generally for the reasons recited in the prior office action and restated below.

The teachings of Shepard et al in view of Wilhoit et al '740 are discussed above. Shepard et al teach that the non-moisture barrier outer layer may include an ionomer but do not specifically teach that the ionomer is a sodium or zinc ionomer. However, as previously stated in the prior office action, sodium and/or zinc ionomers are obvious species of ionomeric material utilized in the art and would have been obvious to one skilled in the art at the time of the invention wherein one skilled in the art at the time of the invention would have been motivated to utilize commercially available ionomers as those instantly claimed in the invention taught by Shepard et al in view of Wilhoit et al '740.

Response to Arguments

9. Applicant's arguments filed 8/11/03 have been fully considered but they are not persuasive and/or moot in view of the new grounds of rejection presented above. With regards to Applicant's arguments over the combination of Shepard et al in view of Wilhoit et al '740, the Examiner notes that Shepard et al clearly disclose that the sealant layer can be produced from mixtures of the ethylene copolymers as instantly claimed but does not specifically teach the blend composition as claimed. However, Wilhoit et al provides motivation to one skilled in the art to select the ethylene copolymer blend as instantly claimed and further to utilize routine experimentation to determine the optimum blend composition given that the amount of the ethylene copolymer components in the blend are result-effective variables. Hence, the Examiner

maintains that the instant invention would have been obvious given the teachings of the prior art and the absence of a showing of unexpected results.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R Jackson whose telephone number is 703-308-0428. The examiner can normally be reached on Mondays-Thursdays, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul J Thibodeau can be reached on 703-308-2367. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Monique R. Jackson
Primary Examiner
Technology Center 1700
October 16, 2003